# RCP2-SA7R ROBO Cylinder Slider Type 73mm Width Pulse Motor Side-Mounted Motor

■ Configuration: RCP2 — SA7R — I — 56P — ☐ — ☐ — ☐ — ☐ — ☐ — ☐

| Series | Type | Encoder | Motor | Lead | Stroke | Compatible Controllers | Cable Length | Option |
|---|---|---|---|---|---|---|---|---|
| | | I: Incremental<br>* The Simple absolute encoder models are labeled as "I". | 56P: Pulse motor<br>56 ☐ size | 16:16mm<br>8: 8mm<br>4: 4mm | 50: 50mm<br>\<br>800:800mm<br>(50mm pitch increments) | P1:PCON<br>RPCON<br>PSEL<br>P3:PMEC<br>PSEP | N : None<br>P : 1m<br>S : 3m<br>M : 5m<br>X☐☐ : Custom Length<br>R☐☐ : Robot cable | See Options below<br>* Be sure to specify which side the motor is to be mounted (ML/MR). |

* See page Pre-35 for explanation of each code that makes up the configuration name.

Pictured: Left-mounted motor model (ML).

Technical References A-5

POINT Notes on Selection

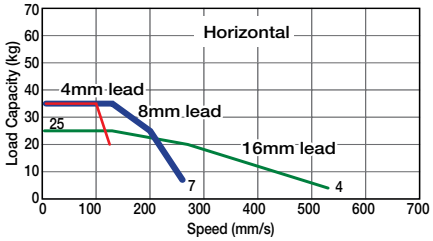
(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed.
Use the actuator specification table below to check the maximum speed at the stroke you desire.

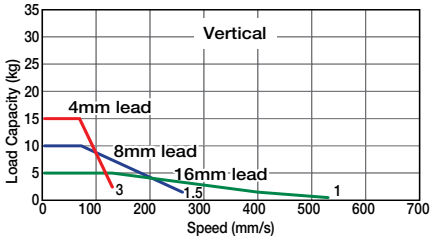
(2) Since the RCP2 series use a pulse motor, the load capacity decreases at high speeds.
Check in the Speed vs. Load Capacity graph to see if your desired speed and load capacity are supported.

(3) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 4mm-lead model, or when used vertically).
These values are the upper limits for the acceleration.

## ■ Speed vs. Load Capacity

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.




## Actuator Specifications

### ■ Lead and Load Capacity

(Note 1) Please note that the maximum load capacity decreases as the speed increases.

| Model | Lead (mm) | Max. Load Capacity (Note 1) Horizontal (kg) | Max. Load Capacity (Note 1) Vertical (kg) | Stroke (mm) |
|---|---|---|---|---|
| RCP2-SA7R-I-56P-16-①-②-③-④ | 16 | ～25 | ～5 | 50～800 (50mm increments) |
| RCP2-SA7R-I-56P-8-①-②-③-④ | 8 | ～35 | ～10 | |
| RCP2-SA7R-I-56P-4-①-②-③-④ | 4 | ～35 | ～15 | |

Legend ① Stroke ② Compatible controller ③ Cable length ④ Options

### ■ Stroke and Maximum Speed

| Lead \ Stroke | 50～700 (50mm increments) | ～800 (mm) |
|---|---|---|
| 16 | 533〈400〉 | 480〈400〉 |
| 8 | 266 | 240 |
| 4 | 133 | 120 |

* The values enclosed in < > apply to vertical setting. (Unit: mm/s)

## ① Stroke List

| Stroke (mm) | Standard Price |
|---|---|
| 50/100 | – |
| 150/200 | – |
| 250/300 | – |
| 350/400 | – |
| 450/500 | – |
| 550/600 | – |
| 650/700 | – |
| 750/800 | – |

## ③ Cable List

| Type | Cable Symbol | Standard Price |
|---|---|---|
| Standard | P (1m) | – |
| | S (3m) | – |
| | M (5m) | – |
| Special Lengths | X06 (6m) ～ X10 (10m) | – |
| | X11 (11m) ～ X15 (15m) | – |
| | X16 (16m) ～ X20 (20m) | – |
| Robot Cable | R01 (1m) ～ R03 (3m) | – |
| | R04 (4m) ～ R05 (5m) | – |
| | R06 (6m) ～ R10 (10m) | – |
| | R11 (11m) ～ R15 (15m) | – |
| | R16 (16m) ～ R20 (20m) | – |

* See page A-39 for cables for maintenance.

## ④ Option List

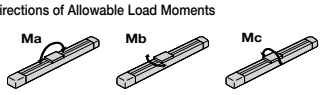
| Name | Option Code | See Page | Standard Price |
|---|---|---|---|
| Brake | B | → A-25 | — |
| Reversed-home | NM | → A-33 | — |
| Left-Mounted Motor (Standard) | ML | → A-33 | — |
| Right-Mounted Motor | MR | → A-33 | — |
| Slider Roller | SR | → A-36 | — |

## Actuator Specifications

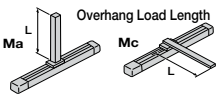
| Item | Description |
|---|---|
| Drive System | Ball screw ø12mm C10 grade |
| Positioning Repeatability | ±0.02mm |
| Lost Motion | 0.1mm or less |
| Base | Material: Aluminum (white alumite treated) |
| Allowable Static Moment | Ma: 50.4 N·m Mb: 71.9 N·m Mc: 138.0 N·m |
| Allowable Dynamic Moment (*) | Ma: 13.9 N·m Mb: 19.9 N·m Mc: 38.3 N·m |
| Overhang Load Length | Ma direction: 230mm or less; Mb·Mc direction: 230mm or less |
| Ambient Operating Temp./Humidity | 0～40°C, 85% RH or less (Non-condensing) |

(*) Based on 5,000km travel life.

Directions of Allowable Load Moments




Overhang Load Length

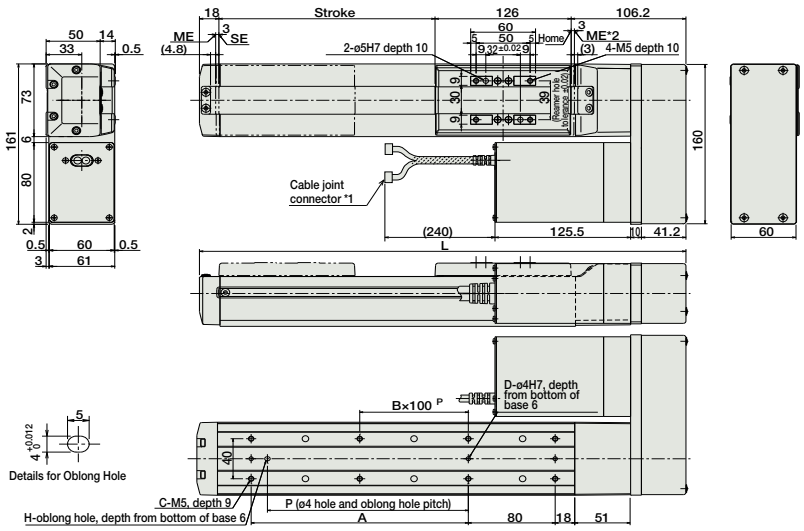


## Dimensions

For Special Orders A-9

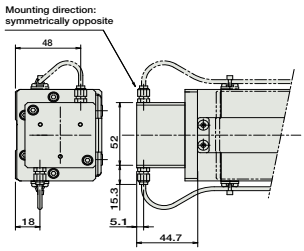
*For the reversed-home model, the dimensions (distance to home) on the motor-side and that on the opposite side are flipped.

*1. The motor-encoder cable is connected here. See page A-39 for details on cables.
*2. When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end
SE: Stroke end
The values enclosed in "( )" are reference dimensions.
*The offset reference position for the moment Ma is the same as the SA7 type. (See P32)




### Dimensions of the brake section

* Adding a brake will increase the actuator's overall length by 43mm, and its weight by 0.6kg.




* For brake cable exiting from the side, it can only exit from the motor side.

### ■ Dimensions/Weight by Stroke

| Stroke | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | 300.2 | 350.2 | 400.2 | 450.2 | 500.2 | 550.2 | 600.2 | 650.2 | 700.2 | 750.2 | 800.2 | 850.2 | 900.2 | 950.2 | 1000.2 | 1050.2 |
| A | 0 | 100 | 100 | 200 | 200 | 300 | 300 | 400 | 400 | 500 | 500 | 600 | 600 | 700 | 700 | 800 |
| B | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 |
| C | 4 | 6 | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 14 | 14 | 16 | 16 | 18 | 18 | 20 |
| D | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| H | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| P | 0 | 85 | 85 | 185 | 185 | 285 | 285 | 385 | 385 | 485 | 485 | 585 | 585 | 685 | 685 | 785 |
| Weight (kg) | 4.5 | 4.7 | 5.0 | 5.2 | 5.4 | 5.6 | 5.9 | 6.1 | 6.3 | 6.5 | 6.8 | 7.0 | 7.2 | 7.4 | 7.7 | 7.9 |

## ② Compatible Controllers

The RCP2 series actuators can operate with the controllers below. Select the controller according to your usage.

| Name | External View | Model | Description | Max. Positioning Points | Input Voltage | Power Supply Capacity | Standard Price | See Page |
|---|---|---|---|---|---|---|---|---|
| Solenoid Valve Type |  | PMEC-C-56PI-NP-2-① | Easy-to-use controller, even for beginners | 3 points | AC100V AC200V | See P481 | – | → P477 |
| |  | PSEP-C-56PI-NP-2-0 | Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type. | | DC24V | 2A max. | – | → P487 |
| Splash-Proof Solenoid Valve Type |  | PSEP-CW-56PI-NP-2-0 | | | | | – | |
| Positioner Type |  | PCON-C-56PI-NP-2-0 | Positioning is possible for up to 512 points | 512 points | | | – | → P525 |
| Safety-Compliant Positioner Type | | PCON-CG-56PI-NP-2-0 | | | | | – | |
| Pulse Train Input Type (Differential Line Driver) |  | PCON-PL-56PI-NP-2-0 | Pulse train input type with differential line driver support | (–) | | | – | |
| Pulse Train Input Type (Open Collector) | | PCON-PO-56PI-NP-2-0 | Pulse train input type with open collector support | | | | – | |
| Serial Communication Type |  | PCON-SE-56PI-N-0-0 | Dedicated to serial communication | 64 points | | | – | |
| Field Network Type |  | RPCON-56P | Dedicated to field network | 768 points | | | – | → P503 |
| Program Control Type |  | PSEL-C-1-56PI-NP-2-0 | Programmed operation is possible Can operate up to 2 axes | 1500 points | | | – | → P557 |

* This is for the single-axis PSEL.
* ① is a placeholder for the power supply voltage (1: 100V / 2: 100～240V).